

REMARKS

Claims 1-9 are present in this application. Claim 1 is an independent claim.

§ 103(a) Rejection – Yajima, Peng

Claims 1-6 and 9 remain rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 2002/0041268 (Yajima) in view of U.S. Patent 6,466,283 (Peng). Applicant respectfully traverses this rejection.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Claim 1 covers a liquid crystal display device that includes, among other things, a die-cast frame made of lightweight metal for supporting a reflection plate. The die-cast frame has linkage pieces which are provided for linking the longer sides of the outer frame pieces to each other, and an aperture space which is enclosed by the outer frame pieces and the linkage pieces.

According to the present specification, “the die-cast frame 1 is an integral structure which is manufactured by casting a molten light metal such as aluminum, magnesium into a die.” (specification at page 9, last full paragraph). An example die-cast frame of the present invention is shown in Figs. 4, 5 and 6, which show linkage pieces 1b for linking longer sides of the outer frame pieces 1c. As disclosed in the specification, the aperture space is a hollow area enclosed by outer frame pieces 1c and linkage pieces 1b of the die-cast frame 1 (specification at page 11, lines 7-10).

The Office Action relies on Yajima for teaching the claimed die-cast frame (Office Action at page 2 cites resin frame 500), and admits that Yajima “does not disclose a die cast frame made of lightweight metal (Office Action at page 3, line 1). Instead, the Office Action relies on Peng for making up for the deficiency in Yajima.

Applicant submits that Peng fails to make up for the deficiency in Yajima because Peng is directed to an “aluminum extruded outer frame” formed by an extrusion process, not die-cast.

In the Abstract, Peng states that, “Compared with the prior art of LCD frames which are made of plastic material, the aluminum extruded outer frame of LCD display is light-weighted

because it does not require reinforcement of metal plates.” Peng explains that “for safeguarding from EMI hazards, a plastic LCD outer frame is normally provided with metal partition plates, which are generally made of steel material. In this case, the light weight of a LCD display frame with plastic material is therefore defeated after steel partition plates are added.” (col. 1, lines 20-24).

Peng teaches that it is preferable to manufacture an aluminum extruded outer frame, because it presents economic saving in production cost and reduces EMI hazards (Field of the invention). In particular, Peng teaches,

“it is easier and more economic to manufacture an aluminum frame by means of extrusion formation, even though it is impossible to extrude a complete square sash in one process, but welding operation will help achieve the purpose.” (col. 1, lines 37-41)

Peng’s extrusion and welding process is disclosed in col. 2. Peng discloses manufacturing steps including extrusion and formation of sash portion in the form of a front stile 61 and a rear stile 62 (see col. 2, step 1), diagonal beveling of a stile (step 2), stamping process (step 3), and frame welding of the outer frame that consists of stiles 61 and 62, in which beveled corners of each stile are welded together by means of electric arc (step 4; col. 2, lines 26-29).

Thus, Peng discloses an “aluminum extruded outer frame,” preferably formed by extrusion and welding. Also, as mentioned above, Peng teaches that the light-weight is achieved because the frame “does not require reinforcement of metal plates.” Subsequently, the combination of Peng and Yajima teaches one of ordinary skill in the art that a light-weight outer frame for an LCD is preferably achieved by extrusion and welding to form an aluminum extruded outer frame. Based on this teaching, Applicant submits that Peng does not make up for the deficiency in Yajima of failing to disclose a die cast frame made of lightweight metal.

Further with regard to Yajima, Yajima discloses an outer frame consisting of a resin frame 500 (described in paras. 0134-0147) and an upper frame 800 made of a metal plate (described in paras. 0170-0172).

Subsequently, Applicant submits that Yajima in combination with Peng would likely result in an aluminum extruded outer frame instead of the plastic/resin frame 500 (see Peng at

col. 1, lines 14-27) and the upper frame 800 made of metal plate of Yajima. In any case, Yajima in combination with Peng would not result in a die-cast frame made of lightweight metal, which meets the disclosed definition of "an integral structure which is manufactured by casting a molten light metal such as aluminum, magnesium into a die."

In addition, Applicant submits that Yajima fails to disclose the claimed die-cast frame having, among other things, "linkage pieces" and "aperture space" enclosed by outer frame pieces and linkage pieces.

With regard to the claimed linkage pieces, the Office Action refers to Fig. 12, 800 and 500, and states that "they all link to each other." The Office Action refers to 800 as teaching the claimed outer frame pieces. Applicants submit that "all link to each other" does not constitute the claimed structural element, "linkage pieces." Applicants do not find a teaching in Yajima of a structural element "linkage pieces" that link longer sides of outer frame pieces, i.e. linkage pieces that link together longer sides of upper frame 800.

Furthermore, at least because Yajima fails to teach the claimed linkage pieces, Yajima also fails to teach the claimed aperture space enclosed by outer frame pieces and linkage pieces.

At least for these reasons, Applicant submits that the rejection fails to establish *prima facie* obviousness. Applicant requests that the rejection be reconsidered and withdrawn.

§ 103(a) Rejections

Claim 7 remains rejected under 35 U.S.C. § 103(a) as being unpatentable over Yajima and Peng in view of U.S. Patent 6,476,883 (Salimes).

Claim 8 remains rejected under 35 U.S.C. § 103(a) as being unpatentable over Yajima and Peng in view of U.S. Application Publication 20030090864 (Kuo).

Applicant submits that neither Salimes nor Kuo make up for the above stated deficiencies in Yajima and Peng. Thus, at least for the reasons above for claim 1, Applicant submits that the rejections fail to establish *prima facie* obviousness.

Applicant requests that the rejections be reconsidered and withdrawn.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact **Robert Downs** Reg. No. 48,222 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

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